

**Notice of Allowability**

Application No.

10/090,747

Examiner

John L. Goff

Applicant(s)

ONODERA ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 4/21/05.
2. ☒ The allowed claim(s) is/are 1 and 6-8.
3. ☒ The drawings filed on 06 March 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 6/12/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to teach or suggest a method of bonding a metal sheet to at least one side of a heat-treated thermoplastic polymer film (the thermoplastic polymer capable of forming an optically anisotropic melt phase) wherein the heat-treatment of the film comprises passing the film over a heat-treatment roll having an unevenness on a surface thereof without transferring the unevenness to the film, the height of the unevenness on the surface of the heat-treatment roll being at least 1  $\mu\text{m}$  but no more than 15  $\mu\text{m}$  and the thermal dimensional change of the heat-treated film being no more than 0.1% at 200 °C. Saito et al. and Itoyama et al. are exemplary in the art of heat-treating a thermoplastic polymer film (the thermoplastic polymer capable of forming an optically anisotropic melt phase) by passing the film over a smooth heat-treatment roll without transferring any unevenness to the film. Kumazawa is exemplary that the upper limit for surface roughness of a smooth roll is considered to be several microns, and Kinose et al. is exemplary that a smooth roll has a surface roughness of less than 15  $\mu\text{m}$ . However, there is no suggestion or teaching to provide any motivation that the smooth roll have a surface roughness greater than 0  $\mu\text{m}$  and more particularly at least 1  $\mu\text{m}$ , and applicants results in table 6 of the specification clearly show a reduction in thermal dimensional change when the heat-treatment roll has an uneven surface, i.e. surface roughness above 0  $\mu\text{m}$  (Examples 1-5 and Comparative Examples 1 and 2). Furthermore, Onodera et al. (U.S. Patent 5,843,562) and Fletcher et al. (U.S. Patent 6,159,412) are cited to show that in the same art as applicants when the heat-treatment roll has an uneven surface, i.e. surface roughness greater than 0  $\mu\text{m}$  (in the case of Onodera et al. an unevenness of 1 to 10  $\mu\text{m}$  and in the case of Fletcher et al. an

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unevenness of 0.02 to 150  $\mu\text{m}$ ), the roll is considered a roll with an uneven surface and not a smooth roll wherein the purpose of the roll with an uneven surface is to emboss the film, i.e. transfer the unevenness pattern to the film (Column 4, lines 1-5 of Onodera et al. and Column 6, lines 30-48).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

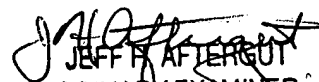
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is (571) 272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John L. Goff



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